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LETTER TO THE EDITOR

Response to Letter: Contribution of Serum Ethanol Concentration to the Osmol Gap: a Prospective Volunteer Study

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To the Editor:

We appreciate the comments by Sud et al. regarding the variability of the coefficient among our subjects and the utility of the osmol gap in determining whether a clinically significant toxic alcohol ingestion is present; indeed, we share some of these same concerns. However, our findings are in line with previous investigations on the subject. Various studies have shown that the osmol gap can vary significantly from person to person[1] and even within a single individual over time.[2]

The goal of our study was not to alter the coefficient used by clinicians in practice but rather to determine more accurately ethanol's contribution to the osmol gap in a controlled environment without the confounders found in previous studies. As Sud et al. pointed out, our coefficient of 4.25 is quite similar to the coefficient of 4.22 derived by Hoffman et al. and may represent a more accurate determination of the actual contribution of ethanol to serum osmolality. However, as we pointed out in the limitations section of our paper, the use of osmol gaps in the diagnosis of toxic alcohol poisoning has inherent limitations and should not be used as a substitute for good clinical decision-making. Fomepizole is now sold in generic form in the U.S. and is significantly less expensive than it has been in the past. If toxic alcohol ingestion is suspected, fomepizole should be administered empirically while awaiting confirmatory testing, and the decision to treat should not be based upon the presence or absence of an elevated osmol gap.

References

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2. Suchard JR. Intra-subject variability of the baseline serum osmolal gap [abstract]. J Toxicol Clin Toxicol 2005; 43:689–690.

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